



Missouri Department
of Natural Resources
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Energy Efficiency in State Facilities

Background:

The Missouri General Assembly established the Energy Efficiency in State Facilities project, authorized by House Bill 195 and Senate Bill 80 in 1993 (Sections 8.800-8.851, RSMo), to reduce state government utility expenditures through encouraging or mandating cost-effective energy efficiencies and renewable energy sources in public facilities.

State facilities include 60 million square feet, in more than 5,000 owned state facilities. An additional three million square feet in more than 400 buildings are leased. An analysis of utility bills shows an average utility cost of \$1.11 per square foot. Typically, properly implemented and well-maintained energy projects can be expected to return from 10% to 50% or more in avoided costs or cost savings over the life of the project.

Accomplishments:

Working jointly with the Office of Administration (OA) and a Technical Advisory Group of statewide energy experts, the Department of Natural Resources, Division of Energy developed the State Building Minimum Energy Efficiency Standards, 10CSR 140-7.010, which became effective February 25, 1996. These minimum energy efficiency standards for new construction and substantial renovation are managed by the agencies responsible for construction or lease of state buildings, including OA, Department of Higher Education, Department of Transportation, and Department of Conservation.

Technical and exploratory energy studies are being completed on 5.4% of the current 62 million square feet of owned state facilities. Exploratory audits and technical energy studies provide a comprehensive energy management plan that identifies cost-effective energy conservation measures for implementation. The Division of Energy in conjunction with the Office of Administration - Division of Design and Construction has completed energy audits for four facilities encompassing 1,381,100 square feet. Building energy audits are underway for an additional four facilities encompassing 1,988,000 square feet. A walk-through audit was also conducted for a 50,700 square foot facility.

Energy efficiency demonstration projects are being implemented in state agencies. A completed energy study at Department of Mental Health, Bellefontaine Habilitation Center is being implemented through the capital

improvements process, with limited funds provided by DNR/DE. Additionally, an energy service performance contract is being pursued for the Wainwright State Office Building. Energy service performance contracting allows the state to work with energy service companies whose services include identification of cost-effective energy conservation measures, implementing and financing the upgrades, and monitors the energy costs and savings of the upgrades.

A Department of Mental Health facility is part of a pilot project to evaluate incremental energy efficiency design opportunities for new construction. The design analysis will be compared to the state facility minimum energy efficiency standard. Incremental first cost and estimated savings will be estimated and summarized using life-cycle costing techniques.

Barriers:

State agencies lack the incentive to participate. The agencies do not share in the energy savings accomplished by these projects. Additionally, state agencies are reluctant to invest time and funds to develop capital improvement requests as such requests tend to fare poorly and these energy efficiency projects compete with the many other priorities facing the agencies.

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